# *Handbook on*
# *Critical Use Nominations*
# *for Methyl Bromide*

***Prepared by the***
***Technology and Economic Assessment Panel***
***and***
***Methyl Bromide Technical Options Committee***

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# Handbook On Critical Use Nominations For Methyl Bromide

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# Chapter 1 - Introduction

## 1.1 Genesis and Purpose of Handbook

At the Fourth Meeting of the Parties, methyl bromide was listed as a controlled substance in Annex E of the Protocol. Control measures for methyl bromide are set out in Article 2H of the Protocol. These control measures include allowance for a level of production and consumption of methyl bromide to continue after production phaseout where this material is necessary to satisfy uses agreed by the Parties to be critical uses.

The process agreed by the Parties for nomination for critical uses of methyl bromide, Decision IX/6, is similar to that set out in Decision IV/25 for essential use nominations for other controlled substances (Annexes A-C), with modifications to reflect the unique uses of methyl bromide.

Noting the need for the non-Article 5(1) Parties to have adequate guidance to enable them to submit nominations for critical use exemptions for consideration at the 15th Meeting of the Parties in 2003, Decision XIII/11 of the Thirteenth Meeting of the Parties in part called upon the Technology and Economic Assessment Panel to:

"...prepare a handbook on critical-use nomination procedures which provides this information, and the schedule for submission which reflects that currently employed in the essential-use nomination procedure...".

Technical and Economic Assessment Panel, with the assistance of MBTOC developed this "Handbook on Critical Use Nominations for Methyl Bromide" in response to this request. It is intended to assist the Parties in the preparation of critical use nominations for methyl bromide. The arrangement of this handbook follows that of the June 2001 version of the "Handbook on Essential Use Nominations".

## 1.2 Content and Structure

This Handbook describes the nomination process for critical use exemptions. It builds on the process for essential use exemptions as it has evolved through Articles of the Protocol and Decisions of the Parties, the procedures followed under the Protocol, and the experience of the Technology and Economic Assessment Panel and its Technical Options Committees in managing the essential use process to date. The Handbook contains three sections: an outline of the critical use process, instructions for the completion of critical use nominations, and

appendices. The appendices contain provisions of the Montreal Protocol relating to critical use exemptions for methyl bromide, relevant decisions of the Parties to the Protocol and critical use nomination forms.

## 1.3 Handbook Updates

The Technology and Economic Assessment Panel may revise and update this Handbook as circumstances require. Please consult the Ozone Secretariat for updated handbooks to ensure use of the latest version.

# Chapter 2 – Critical Use Process for Methyl Bromide

## 2.1 Introduction

Prior to production phase-out of methyl bromide, Parties may nominate uses for a critical use exemption to allow continued use of methyl bromide after it has been phased out and where alternatives are not available. For Parties not operating under Article 5(1) production phase-out for non-exempt uses is by 1 January 2005 (Article 2H as amended).

Parties operating under Article 5(1) do not need to nominate for years prior to their production phase-out (scheduled for 2015).

Montreal Protocol provisions relate to the phase-out of production and do not control the use of substances manufactured prior to the phase-out. Thus, Parties do not need to submit nominations to allow the continuing use of such stockpiled substances. Furthermore, Article 2H, paragraph 5, exempts production and consumption of methyl bromide used or authorised by a Party for quarantine and pre-shipment (QPS) purposes. Thus critical use nominations are not necessary for methyl bromide uses that fall under this QPS exemption.

Only Parties to the Protocol can submit nominations. Thus, companies, other organisations and individuals must submit applications to their national governments for their consideration.

Nominations received by 31 January, in a given year, will be decided by the Parties at their annual meeting of that year. Nominations received after 31 January will be decided the next year.

In response to an emergency event, Parties may notify the Secretariat that they will consume quantities of methyl bromide not exceeding 20 tonnes without prior exemption. The secretariat and the Technology and Economic Assessment Panel will evaluate this use according to "critical methyl bromide use" criteria and present this information for review and guidance at the next Meeting of the Parties under Decision IX/7.

## 2.2 Framework

The nomination and review process for critical use exemptions for methyl bromide (Annex E) follows that which has evolved for essential uses of substances in Annexes A-C. The steps in this process are summarised below.

Article 2 of the Montreal Protocol mandates the phase-out of production and "consumption" of substances that deplete the ozone layer. "Consumption" is defined as production plus imports minus exports. Please note that the Parties are allowed to use stockpiled or recycled substances for as long as they are available after the production phaseout. Article 2 also authorises the Parties by decision to permit such production and consumption as may be necessary for those uses decided by the Parties to satisfy the critical use criteria for methyl bromide.

Article 6 of the Montreal Protocol mandates the creation of expert panels to assist the Parties in assessing the control measures provided for in Article 2. This provision led to the formation of the Technology and Economic Assessment Panel (TEAP) and its Technical Options Committees (TOCs), including the Methyl Bromide Technical Options Committee. The Technology and Economic Assessment Panel (TEAP) is chaired by Dr. Stephen O. Andersen (United States) and Dr. Lambert Kuijpers (Netherlands). The Methyl Bromide Technical Options Committee (MBTOC) is chaired by Dr Jonathan Banks (Australia) and Dr Nahum Marban Mendoza (Mexico). All current members of the TEAP, the Technical Options Committees and Task Forces may be found at: http://www.teap.org/

Excerpts from Articles 2 and 6 of the Montreal Protocol relating to critical and essential use exemptions are attached as Appendix A.

At the Seventh Meeting of the Parties, it was decided to review the applicability of existing essential use criteria and process with regards to evaluating critical uses of methyl bromide in the agricultural sector. At the Ninth Meeting, the Parties set out criteria and procedures for assessing a critical methyl bromide use for the purposes of control measures and exemptions in Article 2 of the Protocol. These Decisions are given in full in Appendix B.

The substantive criteria for a critical use exemption as given in Decision IX/6 are:

“That a use of methyl bromide should qualify as “critical” only if the nominating Party determines that:

(i) The specific use is critical because the lack of availability of methyl bromide for that use would result in a significant market disruption; and
(ii) There are no technically and economically feasible alternatives or substitutes available to the user that are acceptable from the standpoint of environment and health and are suitable to the crops and circumstances of the nomination;”

In addition, for Parties not operating under Article 5(1), "that production and consumption, if any, of methyl bromide for critical uses should be permitted only if:

(i) All technically and economically feasible steps have been taken to minimise the critical use and any associated emission of methyl bromide;
(ii) Methyl bromide is not available in sufficient quantity and quality from existing stocks of banked or recycled methyl bromide; also bearing in mind the developing countries' need for methyl bromide;
(iii) It is demonstrated that an appropriate effort is being made to evaluate, commercialise and secure national regulatory approval of alternatives and substitutes, taking into consideration the circumstances of the particular nomination…. Non-Article 5 Parties must demonstrate that research programmes are in place to develop and deploy alternatives and substitutes…."

## 2.3 Process for nomination for critical use exemption

Following precedent established for nomination, reviews and acceptance of essential use nominations (Decision IV/25), critical use nominations are considered for exemptions on an annual basis. Exemptions granted for more than one year (if any) are subject to the annual review provisions described in paragraph 5 of Decision IV/25. Parties that are given multiple year exemptions may be requested to update their nomination to facilitate that review.

Decision IX/6(2) tasked the Technology and Economic Assessment Panel to review nominations for critical use exemptions submitted by the Parties, and to make recommendations based on the criticality criteria given above.

Note that Decision IX/6 in paragraph 2 specifically exempted Technical and Economic Assessment Panel from considering criteria relating to significant market disruption specified in paragraph 1 (a) (i). It was left to national governments to assess whether a nomination met the criterion for a critical use relating to significant market disruption.

Review by the Technology and Economic Assessment Panel is conducted initially through its Methyl Bromide Technical Options Committee, or other TOC, if appropriate. Members of MBTOC evaluate each nomination and report their review to the MBTOC co-chairs. The draft text of the responses to nominations is discussed via meetings, phone, fax and conventional mail, as appropriate. The results of these reviews are discussed at a full meeting of MBTOC and, in some cases, also by select meetings of MBTOC. Clarifications may be sought from the nominating Party as necessary. A draft recommendation is prepared and

agreed. This is forwarded to Technical and Economic Assessment Panel by the MBTOC co-chairs for further review.

The Technical and Economic Assessment Panel develops recommendations on the nominations and submits its report through the Secretariat by 30 April of that year, which is at least three months prior to the Meeting of the Open Ended Working Group (OEWG). The OEWG may also choose to comment on the nominations and to recommend to the meeting of the Parties. The Parties take decisions on the nominations at their annual meeting during the last quarter of the year.

A critical use exemption is granted to the nominating Party for a specific quantity of a specified ODS for a specific time period. A Party granted a critical use exemption may produce and/or import the specified methyl bromide quantity. Any methyl bromide production and consumption to meet the authorised critical uses, and also quantities authorised but not actually consumed, should be identified in the annual data reporting to the Ozone Secretariat.

Parties are urged to consolidate like nominations to minimise the need to include confidential information that can be easily traced to one producer or organisation. In rare instances, confidential information may be a key element of a nomination. Such confidential information should be clearly indicated in a nomination.

## 2.4. Steps Leading to a Critical Use Exemption

The critical use process consists of the following nine steps:

1. **Application:** An organisation or other entity in a non-Article 5(1) Party to the Protocol makes a specific application for a critical use exemption to the relevant authorities in its government. The government reviews the application and decides whether to submit the nomination. Criteria on whether a specific methyl bromide use is critical include whether lack of an allocation of methyl bromide for this use would result in significant market disruption. Parties are requested to consolidate like applications to assist subsequent review.

2. **Nomination:** Critical use nomination(s) submitted to the Montreal Protocol Ozone Secretariat for any future year or years. Nominations received by 31 January of a particular year will be considered at the Meeting of the Parties in that year. Submissions lodged with the Secretariat by 31 January in the year prior to the year when authorisation is requested will also be considered at the Meeting of the Parties

in that year in order to give extended planning time for the applicants for the critical use exemption. The Party should name person(s) in its country who are authorised to provide any clarifications sought on the nominations by the Technology and Economic Assessment Panel. Early submission of nominations is encouraged.

3. **Assignment:** The Ozone Secretariat forwards notice of the nomination to the Technology and Economic Assessment Panel, which in turn assigns the nomination to the appropriate Technical Options Committee, usually the Methyl Bromide Technical Options Committee. Copies of the complete nomination are forwarded to Technology and Economic Assessment Panel and its review team.

4. **Review:** The Methyl Bromide Technical Options Committee reviews the nomination to assess if it meets the criteria for a critical use established by Decision IX/6 after obtaining clarifications, if needed, from the person(s) designated by the nominating Party. The Technology and Economic Assessment Panel then reviews the report of the Methyl Bromide Technical Options Committee and either recommends the nomination to the Open-Ended Working Group or reports that it is unable to recommend the nomination. For nominations lodged by 31 January, the Technology and Economic Assessment Panel report to the Open-Ended Working Group will be prepared by 30 April of the same year.

5. **Evaluation:** The Open-Ended Working Group reviews the Panel report and recommends a decision for consideration by the Parties.

6. **Decision:** The Meeting of the Parties decides whether to authorise production for critical use in accordance with the Montreal Protocol. The Parties may attach conditions to their approval for the critical use.

7. **National Authorisation:** The Party in possession of a critical use exemption authorises the applicant to acquire the controlled substance (methyl bromide) according to the terms of the decision.

8. **Procurement and use:** The applicant exercises its authorisation to use the methyl bromide in quantities specified in the authorisation. Please note that the Protocol authorises but does not mandate production: each applicant must locate a supplier and negotiate supply.

9. **Reporting:** Users provide the national authority with all information necessary for subsequent auditing and reporting of the authorised use to the Ozone Secretariat, including quantities applied and unused or stored for subsequent authorised use.

## 2.5 Information Requirements

Information requirements for methyl bromide critical use nominations differ slightly for soil fumigation, or post harvest, structural or transport fumigation purposes. The requirements are given in Sections 3.1.1 and 3.1.2 respectively. A synopsis of the information requirements for critical use nominations for soil fumigation (pre-plant) purposes can be found in the Meeting Report for the Thirteenth Meeting of the Parties, Colombo, November 2001 (see Appendix B).

When considering availability of alternatives to a methyl bromide use for which an exemption is being considered, Parties may be guided by those listed in the 'Index to Methyl Bromide Alternatives'. This index is available at www.teap.org. It is an index to alternatives cited in the MBTOC Assessments and Technical and Economic Assessment Panel reports. It is to be updated annually to include new material as it is published in the Technical and Economic Assessment Panel reports and four-yearly Assessment reports.

# Chapter 3 - Instructions

Nominations are expected to fully satisfy the criteria in Decision IX/6. All Parties are encouraged to exercise the utmost diligence in the assessment of criticality and to provide detailed rationale for all nominations.

Nominations to the Ozone Secretariat received by 31 January will be reviewed by TEAP for consideration by the Parties in that same year, i.e. submissions for 2005 must be received by 31 January 2004. Earlier submissions are encouraged. See Section 3.2., below, for a detailed time line for submissions.

## 3.1 Critical Use Nomination

Procedures for submission of nominations and suggested cover sheets are given in Appendix C. Information is required in the following areas:

- alternatives to the proposed methyl bromide use;
- steps to minimise use;
- steps to minimise emissions;
- recycling and stockpiling;
- efforts made to secure alternatives;
- quantity of controlled substances requested;

It should be verified that all economical options have been undertaken to reduce use and emissions, and that lack of availability of methyl bromide for the nominated use would lead to significant market disruption.

Detials of the information required to substantiate critical use nominations are given in Sections 3.1.1 and 3.1.2 for soil (preplant) and postharvest and structural uses respectively Responses to these requirements should be brief, but informative.

3.1.1 Explanatory notes for completing nominations for soil (pre-plant) uses of methyl bromide

**1. Name of crop/use for which the exemption is being requested;** Specify the crop or use for which the methyl bromide critical use is requested. For the crop, specify crop type, e.g. seeds, cuttings, plug plants, and also cropping system, e.g. open field, glasshouse. Specify the cultivar of the crop where this is important to substantiation of the nomination.

**2. Location of the use;** Provide specific details of location of use of the methyl bromide requested.

**3. Basic information on related soil type and climate associated with areas where the exemption is being requested (if relevant);** Provide details of soil type and characteristics and details of climatic zone in which the use would occur.

**4. The pests or problems which methyl bromide is being used to control;** List specific genera and problems to be controlled.

**5. Historic use of methyl bromide in total kilograms;** Specify quantities and dates of use of methyl bromide over the previous years on the crop for which critical use is sought (preferably five years of data).

**6. Kilograms/hectare and total hectares covered;** Provide details of area to be treated, methyl bromide application rate and whether it is to be used alone or in combination, e.g. mixed with chloropicrin.

**7. Kilograms of methyl bromide requested in the exemption and the duration of the exemption requested**; Provide total kg of methyl bromide sought each year and number of years for which exemption is requested.

**8. Techniques used to minimize emissions (e.g. tarpaulins or methyl bromide injection techniques);** Specify techniques to be used to minimize emissions of methyl bromide in the proposed use (e.g. virtually impermeable films or tarps, injection techniques, dosage reductions, changed formulations or frequency of use). If emission reduction techniques are not to be used, give reasons.

**9. Efforts to evaluate and deploy alternatives;** Describe research, research trials, expenditure on research, commercial and semi-commercial demonstrations and workshops. In each case, name the organisation and person(s) that carried out the work. Provide information on the duration and results of the trials. Provide references to the main publication(s) and other relevant reports.

**10. Describe why each alternative is technically unsuitable for the proposed use;** For your situation**,** quantify/describe pest population level, disease incidence, severity and control obtained with alternatives compared with MB. Include logistical and regulatory constraints; timing of application; environmental-health reasons; and other aspects that

impact on each alternative. Parties may wish to ensure that users have considered, at least, the alternatives listed in past Technical and Economic Assessment Panel reports as delineated in the Index to Methyl Bromide Alternatives given at http://www.teap.org/

**11. Efforts to commercialise alternatives;** Describe efforts made to adapt and implement potentially effective alternative(s) to control pest(s) and disease(s) in the situation where methyl bromide is proposed.

**12. Effort to register alternatives;** List each alternative considered suitable but not allowed by regulatory authorities. If any, describe the effort that has been made to register this alternative and current regulatory status. Provide a date when the alternative was submitted for registration or estimate the likely time when it will be registered.

**13. Cost of methyl bromide per hectare and cost of alternatives tried:** For at least the most recent year for which the Party is providing data regarding the "Historic use of methyl bromide in total kilograms", provide details of the total costs of methyl bromide and a comparison with alternatives trialled or used and discontinued.

**14. Cost of application of methyl bromide and alternatives; cost of fixed and variable inputs; gross and net revenue:** For at least the most recent year for which the Party is providing data regarding the "Historic use of methyl bromide in total kilograms", provide costs with sufficient detail to allow comparison between methyl bromide use and the commercially available alternatives for the use for which the critical use is sought.

**15. Price received by the user and in major markets:** For at least the most recent year for which the Party is providing data regarding the "Historic use of methyl bromide in total kilograms", provide farm gate prices for the produce from the treated areas, and price in major markets.

**16. Historic yield information with methyl bromide and alternative(s) (if available):** For your situation, provide details of comparative yields under methyl bromide use and with one or more of the best alternative(s) evaluated.

**17. Plan to switch to alternatives:** Provide a plan to switch to non-MB alternatives in the near future for the MB use for which a critical exemption is sought.

3.1.2 Explanatory notes for completing nominations for postharvest and structural uses of methyl bromide

**1. Use for which the exemption is requested**: Describe in detail the MB treatment proposed for the commodity, object, structure or enclosure. For the commodity, include variety if this is important to substantiate the need for the continued use of MB. If the application concerns fumigation of structure(s), include the purpose and type of structure. If structure is a mill or food processing facility, include the names and packaging of the food

commodities processed and stored in the facility. Indicate if structure is a dwelling or has other purposes.

**2. Pests or problems which MB is being used to control:** Specify pest and/or disease to genus or species level, where known, for which the fumigation is typically carried out.

**3. Location of use:** Provide specific details about the physical location where the proposed MB is to be used. If the equipment to be fumigated is mobile, provide a general description of the equipment.

**4. Climate:** Provide details of ambient conditions under which the MB use would occur where this is useful to substantiate the nomination (eg temperature range, and relative humidity during the period when the fumigation(s) would typically be conducted).

**5. Type of fumigation enclosure:** Describe the type of fumigation facility (fixed or mobile), particularly its volume and measured gas tightness (eg half-time for fumigant, or pressure retention half-time).

**6. Annual consumption of MB**: Submit quantities of methyl bromide for this use or treatment in the current year and for several previous years (preferably 5 years) if you have been using MB for this period. Indicate estimates if records are no longer available.

**7. Treatment criteria, including dosage rate:** Provide the proposed dosage rate (g $m^{-3}$), volume treated, frequency and number of treatments, exposure period, typical or expected temperature range of commodity or the inside of the structure under treatment.

**8. Techniques used to minimise MB use and emissions:** Specify techniques, such as tarping and sealing, used to minimise emissions. Describe the use or proposed use of any recapture or emission control technology. Describe the Quality Assurance system, if available, that allows an evaluation of the efficacy of your fumigation treatment.

**9. Describe why each alternative is technically unsuitable for your application;** If necessary to substantiate your request, include as appropriate the following information: logistical constraints; timing of application; environmental-health reasons; and other aspects that make each alternative unsuitable. Parties may wish to ensure that users have considered, at least, the alternatives listed in past Technical and Economic Assessment Panel reports as delineated in the Index to Methyl Bromide Alternatives given at www.teap.org.

**10. Efforts to evaluate alternatives:** Describe results of research effort and expenditure, commercial and semi-commercial demonstrations relating to alternatives. In each case, name the organisation and person(s) that carried out the work. Provide information on the duration of the trials. Provide any references related to alternatives that came out of this work.

**11. Efforts to commercialise alternatives:** Describe efforts made to adapt and implement potentially effective alternative(s) to control pest(s) and disease(s) in your situation.

**12. Effort to register alternatives:** List each alternative considered suitable but not allowed by regulatory authorities. If any, describe the effort that has been made to register this alternative and current regulatory status. Provide a date when the alternative was submitted for registration or estimate the likely time when it will be registered.

**13. Current cost of MB per kilogram:** Provide cost of MB per kg paid for your proposed use.

**14. Total cost of the MB treatment requested:** Cost of fixed and variable inputs, including capital and labour, to allow estimation of the total cost of the proposed methyl bromide treatment.

**15. Economic implications of not having access to MB for your use:** Describe the economic or marketability impact on your product and/or facility if MB is not available.

**16. Current cost of alternative(s):** Indicate costs of alternative treatment(s). Describe the likely impact on the marketability of your product and/or facility if one or more of the best alternative(s) is used.

**17. Plan to switch to alternatives:** Provide a plan to switch to non-MB alternatives in the near future for the MB use for which a critical exemption is sought.

## 3.2 Schedule for Submissions

The *minimum* schedule for critical use submissions is as follows. Please note that the Protocol typically holds annual meetings in September or later. This could lead to inadequate time for national governments to complete notification of applicants, and for applicants to either procure necessary methyl bromide, if authorised, or to make appropriate arrangements to proceed without methyl bromide, if the nomination was not successful. Therefore nominating Parties and their potential methyl bromide users may wish to apply earlier. The minimum schedule will lead to decisions by the Parties that may give a period of a month or less between the decision on a critical use nomination and the year in which the critical use is sought.

3.2.1 Minimum schedule for nominations

**Prior to January 31 in the year that critical use authorisation is requested:**

| | |
|---|---|
| | Applicant organisations prepare and submit critical use applications to national governments. |
| | Governments review applications and prepare critical use nominations, following guidance contained in this "Handbook on Critical Use Nominations for Methyl Bromide". |
| **January 31:**[1] | Deadline for critical use nominations to the Ozone Secretariat. |
| **April 30:**[2] | Technical and Economic Assessment Panel submit its evaluation of the nominations to the Ozone Secretariat for communication to the Parties. |
| **June - July:** | The Open-Ended Working Group (OEWG) to the Parties to the Protocol meets, considers the TEAP report and recommends whether the nominations should be approved. |
| **September - November:** | Parties to the Protocol meet and decide whether to allow production for nominated uses They may specify conditions for a particular exemption. |

Two time schedules for submission of nominations for critical use of methyl bromide in 2005 are given in Figure 1. One of these schedules results in a year's notice to the nominating Party of the success or failure of a submission. The other gives authorisation, or rejection of the nomination in late 2004 for uses for 2005.

The following diagram illustrates the timing of critical events for nominations for critical-use exemptions for methyl bromide, showing the timing for early (First Year Assessment) and minimum (Second Year Assessment) schedules for authorisations to commence 1 January 2005, or later.

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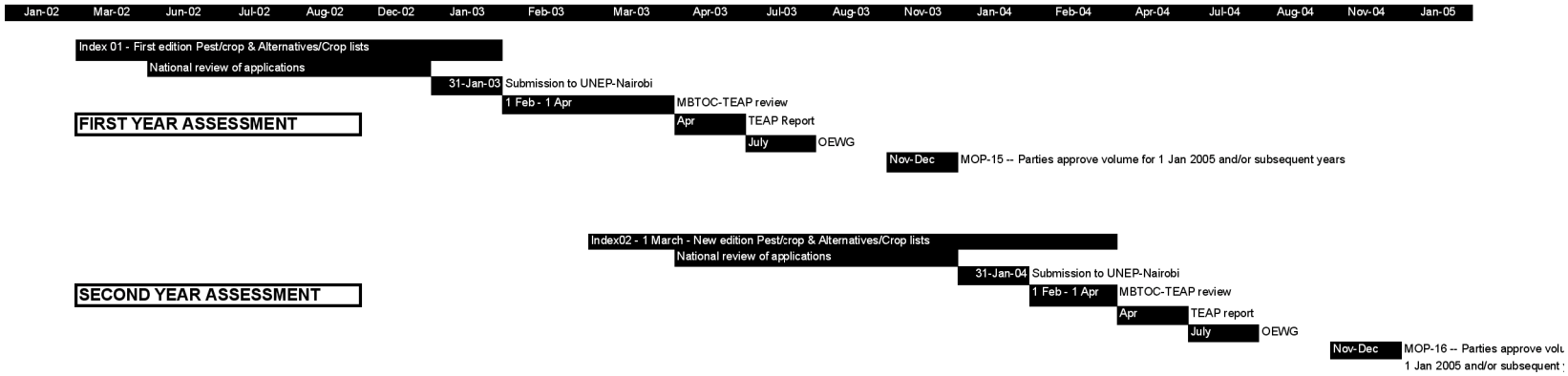
[1,2] These dates are deadlines established by the Parties.

Figure 1. Timing of critical events for nominations for critical-use exemptions for methyl bromide, showing timing for early (First Year Assessment) and minimum (Second Year Assessment) schedules for authorisations to commence 1 Jan 2005 or later.



# Appendix A – Excerpts from Protocol Provisions[2]

## ARTICLE 2: CONTROL MEASURES

### Article 2H: Methyl Bromide

1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, its calculated level of consumption in 1991. Each Party producing the substance shall, for the same period, ensure that its calculated level of production of the substance does not exceed, annually, its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1999, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, seventy-five per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, seventy-five per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2001, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, fifty per cent of its calculated level of consumption in 1991. Each Party producing the substance shall,

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[2] For a consolidated description of Protocol provisions see "Handbook for the International Treaties for the Protection of the Ozone Layer", Fifth Edition, 2000, Ozone Secretariat.

for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, fifty per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2003, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, thirty per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, thirty per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1991. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be critical uses.

5 *bis*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed eighty percent of the annual average of its production of the substance for basic domestic needs for the period 1995 to 1998 inclusive.

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Note that the Handbook does not reflect changes since December 1999.

5 *ter*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2015, and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed zero.

6. The calculated levels of production and consumption under this Article shall not include the amounts used by the Party for quarantine and pre-shipment applications.

**Article 6: Assessment and Review of Control Measures**

Beginning in 1990, and at least every four years thereafter, the Parties shall assess the control measures provided for in Article 2 and Articles 2A to 2E, and the situation regarding production, imports and exports of the transitional substances in Group I of Annex C (Articles 2A to 2H) on the basis of available scientific, environmental, technical and economic information. At least one year before each assessment, the Parties shall convene appropriate panels of experts qualified in the fields mentioned and determine the composition and terms of reference of any such panels. Within one year of being convened, the panels will report their conclusions, through the Secretariat, to the Parties.

## Appendix B – Extracts from Meeting Reports and Decisions of the Parties to the Montreal Protocol Relevant to Critical Uses of Methyl Bromide[3]

### 1. Extract from: The Report of the Thirteenth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer

**"VI. OTHER MATTERS**

*A. Nominations for critical-use exemptions for applications of methyl bromide*

110. The representative of Australia introduced a conference room paper containing a draft decision on critical-use submissions for methyl bromide applications, representing the outcome of discussions by a contact group of Parties. She explained that the decision arose out of concerns previously expressed by the Technology and Economic Assessment Panel about the timing and content of critical-use submissions following the adoption of decision IX/6 at the Ninth Meeting of the Parties. Parties feared that in the absence of near-term guidance, different countries could submit different information, leading to difficulties in ensuring a fair and equitable review of exemption requests, and agreed that it would be desirable to establish a schedule for submission mirroring that already in place for essential-use exemptions.

111. The group had accepted the suggestion of the Methyl Bromide Technical Options Committee that essential components of a critical-use exemption request should include the following: name of crop/use for which the exemption was being requested; location of the use; basic information on related soil type and climate associated with areas where the exemption was being requested (if relevant); the pests or problems which methyl bromide was being used to control; historic use of methyl bromide in total kilograms, kilograms/hectare (or acre) and total hectares (or acres) covered; kilograms of methyl bromide requested in the exemption and the duration of the exemption requested; techniques used to minimize emissions (e.g. tarpaulins or methyl bromide injection techniques); cost of methyl bromide per hectare (or acre) and cost of alternatives tried; cost of application of methyl bromide and alternatives; cost of fixed and variable inputs; gross and net revenue; price received by the user and in major markets; and historic yield information with methyl bromide and alternatives (if available). The Technology and Economic Assessment Panel should make adjustments to the list to cover non-soil uses.

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112. In addition, the provision of information demonstrating that appropriate efforts were being made to evaluate, commercialize and secure regulatory approval of alternatives and substitutes was required under decision IX/6. In that regard, the fullest information available should be provided on trials with alternatives and their results. Regarding alternatives, Parties should seek to ensure that users had tried the alternatives listed in past TEAP reports as available, or included an explanation showing that alternative was not feasible in the given situation, or what plans the applicant had to test or put in place the alternative. In any event, under decision IX/6 Parties must present a plan to test and switch to alternatives in the near term. Also under decision IX/6, Parties must provide information indicating that methyl bromide was not available from banked or recycled supplies.

113. The group had also felt that it would be useful for Parties submitting applications to consider possible ways to consolidate national applications in order to make review by the Technology and Economic Assessment Panel and the Parties more manageable. The group agreed that it would be useful for the Panel to make available, as soon as possible, a methyl bromide critical uses handbook, including the key application information requirements outlined above, and a consolidated list of alternatives that had been included in past reports of the Panel and the Methyl Bromide Technical Options Committee. The group also agreed that as issues relating to application of the economic criteria contained in decision IX/6 were likely to be difficult for the Committee to review, it would be useful to ask the Panel and the Committee to consider how to add agricultural economists to the membership of the Committee to assist it in the review of critical-use nominations.

114. Following a discussion, the preparatory segment decided to forward the draft decision, as amended, to the high-level segment for approval."

**2. Decisions on critical uses of methyl bromide.**

**<u>Decision IX/6: Critical-use exemptions for methyl bromide</u>**

1. To apply the following criteria and procedure in assessing a critical methyl bromide use for the purposes of control measures in Article 2 of the Protocol:

   (a) That a use of methyl bromide should qualify as "critical" only if the nominating Party determines that:

(i) The specific use is critical because the lack of availability of methyl bromide for that use would result in a significant market disruption; and

(ii) There are no technically and economically feasible alternatives or substitutes available to the user that are acceptable from the standpoint of environment and health and are suitable to the crops and circumstances of the nomination;

(b) That production and consumption, if any, of methyl bromide for critical uses should be permitted only if:

(i) All technically and economically feasible steps have been taken to minimize the critical use and any associated emission of methyl bromide;

(ii) Methyl bromide is not available in sufficient quantity and quality from existing stocks of banked or recycled methyl bromide, also bearing in mind the developing countries' need for methyl bromide;

(iii) It is demonstrated that an appropriate effort is being made to evaluate, commercialize and secure national regulatory approval of alternatives and substitutes, taking into consideration the circumstances of the particular nomination and the special needs of Article 5 Parties, including lack of financial and expert resources, institutional capacity, and information. Non-Article 5 Parties must demonstrate that research programmes are in place to develop and deploy alternatives and substitutes. Article 5 Parties must demonstrate that feasible alternatives shall be adopted as soon as they are confirmed as suitable to the Party's specific conditions and/or that they have applied to the Multilateral Fund or other sources for assistance in identifying, evaluating, adapting and demonstrating such options;

2. To request the Technology and Economic Assessment Panel to review nominations and make recommendations based on the criteria established in paragraphs 1 (a) (ii) and 1 (b) of the present decision;

3. That the present decision will apply to Parties operating under Article 5 and Parties not so operating only after the phase-out date applicable to those Parties;

**Decision IX/7: Emergency methyl-bromide use**

To allow a Party, upon notification to the Secretariat, to use, in response to an emergency event, consumption of quantities not exceeding 20 tonnes of methyl bromide. The Secretariat and the Technology and Economic Assessment Panel will evaluate the use according to the "critical methyl bromide use" criteria and present this information to the next meeting of the Parties for review and appropriate guidance on future such emergencies, including whether or not the figure of 20 tonnes is appropriate.

**Decision XIII/11: Procedures for applying for a critical use exemption for methyl-bromide.**

*Noting* that Parties not operating under paragraph 1 of Article 5 must cease production and consumption of methyl bromide for other than quarantine and pre-shipment applications from 1 January 2005, except for consumption and production that meet the levels agreed by the Parties for critical uses,

*Noting* the importance of providing the Parties not operating under paragraph 1 of Article 5 with early guidance on arrangements for implementing decision IX/6, which provides criteria and procedures for assessing a critical methyl bromide use,

*Noting* the need for the Parties to have adequate guidance to enable them to submit nominations for critical-use exemptions for consideration at the 15th Meeting of the Parties in 2003,

1. To note with appreciation the work of the Methyl Bromide Technical Options Committee (MBTOC) in presenting the information required in order adequately to assess nominations submitted in pursuance of decision IX/6 for critical-use exemptions and the ongoing work of the Technology and Economic Assessment Panel

in preparing a consolidated list of alternatives to methyl bromide that had been included in past Technical and Economic Assessment Panel and MBTOC reports;

2. To request the Technology and Economic Assessment Panel to prepare a handbook on critical-use nomination procedures which provides this information, and the schedule for submission which reflects that currently employed in the essential-use nomination procedure;

3. To request the Technology and Economic Assessment Panel to finalize the consolidated list of alternatives to methyl bromide referred to in paragraph 1 and post it on its Website as soon as possible;

4. To request the Technology and Economic Assessment Panel to finalise the "Handbook on Critical Use Nominations for Methyl Bromide" by January 2002, and the Secretariat to post this Handbook on its Website as soon as possible;

5. To request the Technology and Economic Assessment Panel to engage suitably qualified agricultural economists to assist it in reviewing critical-use nominations.

**3. Decisions on essential uses:**

## Decision IV/25: Essential uses

1. To apply the following criteria and procedure in assessing an essential use for the purposes of control measures in Article 2 of the Protocol:

   (a) that a use of a controlled substance should qualify as "essential" only if:

      (i) it is necessary for the health, safety or is critical for the functioning of society (encompassing cultural and intellectual aspects); and
      (ii) there are no available technically and economically feasible alternatives or substitutes that are acceptable from the standpoint of environment and health;

   (b) that production and consumption, if any, of a controlled substance for essential uses should be permitted only if:

      (i) all economically feasible steps have been taken to minimise the essential use and any associated emission of the controlled substance; and

(ii) the controlled substance is not available in sufficient quantity and quality from existing stocks of banked or recycled controlled substances, also bearing in mind the developing countries' need for controlled substances;

(c) that production, if any, for essential use, will be in addition to production to supply the basic domestic needs of the Parties operating under paragraph 1 of Article 5 of the Protocol prior to the phase-out of the controlled substances in those countries;

1. To request each of the Parties to nominate, in accordance with the criteria approved in paragraph 1 (a) of the present decision, any use it considers "essential", to the Secretariat at least six months for halons and nine months for other substances prior to each Meeting of the Parties that is to decide on this issue;

3. To request the Technology and Economic Assessment Panel and its Technical and Economic Options Committee to develop, in accordance with the criteria in paragraphs 1 (a) and 1 (b) of the present decision, recommendations on the nominations, after consultations with experts as necessary, regarding:

(a) the essential use (substance, quantity, quality, expected duration of essential use, duration of production or import necessary to meet such essential use);

(b) economically feasible use and emission controls for the proposed essential use;

(c) sources of already produced controlled substances for the proposed essential use (quantity, quality, timing); and

(d) steps necessary to ensure that alternatives and substitutes are available as soon as possible for the proposed essential use;

4. To request the Technology and Economic Assessment Panel, while making its recommendations to take into account the environmental acceptability, health effects, economic feasibility, availability, and regulatory status of alternatives and substitutes;

5. To request the Technology and Economic Assessment Panel to submit its report, through the Secretariat, at least three months before the Meeting of the Parties in which a decision is to be taken. The subsequent reports will also consider which previously qualified essential uses should no longer qualify as essential;

6. To request the Open-ended Working Group of the Parties to consider the report of the Technology and Economic Assessment Panel and make its recommendations to

the Fifth Meeting of the Parties for halons and at the Sixth Meeting for all other substances for which an essential use is proposed;

7. That essential use controls will not be applicable to Parties operating under paragraph 1 of Article 5 of the Protocol until the phase-out dates applicable to those Parties.

## Decision V/18. Timetable for the submission and consideration of essential use nominations

1. To request the Parties to submit their nominations for each production and consumption exemption for substances other than halon for 1996 in accordance with Decision IV/25, with the presumption that the Meeting of the Parties will be held on 1 September;

2. To modify the timetables in Decision IV/25 for nominations for halon production and consumption exemptions for 1995 and subsequent years, and for nominations for production and consumption exemptions for substances other than halon for 1997 and subsequent years as follows: to set 1 January of each year as the last date for nominations for decisions taken in that year for any subsequent year;

3. To request the Technology and Economic Assessment Panel and its relevant Technical Options Committees to develop recommendations on the nominations and submit their report through the Secretariat by 31 March of that year;

4. To request the Open-ended Working Group of the Parties to consider the report of the Technology and Economic Assessment Panel and make its recommendations to the subsequent meeting of the Parties;

5. To request the Technology and Economic Assessment Panel to assemble and distribute a handbook on essential uses nominations including copies of relevant decisions, nomination instructions, summaries of past recommendations, and copies of nominations to illustrate possible formats and levels of technical detail.

## Decision VI/9. Essential use nominations for controlled substances other than halons for 1996 and beyond

1. To note with appreciation the work done by the Technology and Economic Assessment Panel and its Technical Options Committees pursuant to Decision IV/25 of the Fourth Meeting of the Parties;

2. That, for 1996 and 1997 for Parties not operating under paragraph 1 of Article 5 of the Protocol, levels of production or consumption necessary to satisfy essential uses of chlorofluorocarbons and 1,1,1-trichloroethane for: (i) metered dose inhalers (MDIs) for the treatment of asthma, chronic obstructive pulmonary disease (COPD), and for the delivery of leuprolide to the lungs and (ii) the Space Shuttle, are authorised as specified in Annex I to the report of the Sixth Meeting of the Parties, subject to annual review of quantities;

3. That for 1996 and 1997, for Parties not operating under paragraph 1 of Article 5 of the Protocol, production or consumption necessary to satisfy essential uses of ozone-depleting substances for laboratory and analytical uses are authorised as specified in Annex II to the report of the Sixth Meeting of the Parties;

4. That Parties shall endeavour to minimise use and emissions by all practical steps. In the case of metered does inhalers, these steps include education of physicians and patients about other treatment options and good-faith efforts to eliminate or recapture emissions from filling and testing, consistent with national laws and regulations.

## Decision VII/28. Essential use nominations for controlled substances for 1996 and beyond

1. To note with appreciation the work done by the Technology and Economic Assessment Panel and its Technical Options Committees pursuant to Decision IV/25 of the Fourth Meeting of the Parties;

2. That, for 1996, 1997, 1998, 1999, 2000 and 2001 for Parties not operating under paragraph 1 of Article 5 of the Protocol, levels of production and consumption necessary to satisfy essential uses of CFC-11, CFC-12, CFC-113, CFC-114 and methyl chloroform are authorised as specified in Annex VI to the report of the Seventh Meeting of the Parties, for metered-dose inhalers (MDIs) for asthma and chronic obstructive pulmonary disease, nasal dexamethasone, and specific cleaning, bonding and surface activation applications in rocket motor manufacturing for the United States Space Shuttle and Titan, subject to the following conditions:

   (a) The Technology and Economic Assessment Panel will review, annually, the quantity of controlled substances authorised and submit a report to the Meeting of the Parties in that year;

(b) The Technology and Economic Assessment Panel will review, biennially, whether the applications for which exemption was granted still meets the essential-use criteria and submit a report, through the Secretariat, to the Meeting of the Parties in the year in which the review is made;

(c) The Parties granted essential use exemptions will reallocate, as decided by the Parties, to other uses the exemptions granted or destroy any surplus ozone-depleting substances authorised for essential use but subsequently rendered unnecessary a result of technical progress and market adjustments;

3. To urge the Parties to collate, co-ordinate and evaluate the individual company nominations for future years before submitting these nominations to the Secretariat.

## Decision VIII/9. Essential use nominations for Parties not operating under Article 5 for controlled substances for 1997 through 2002

1. To note with appreciation the work done by the Technology and Economic Assessment Panel and its Technical Options Committees pursuant to Decision IV/25 of the Fourth Meeting of the Parties and Decisions VII/28 and VII/34 of the Seventh Meeting of the Parties;

2. That the levels of production and consumption necessary to satisfy essential uses of CFC-11, CFC-12, CFC-113 and CFC-114, for metered-dose inhalers (MDIs) for asthma and chronic obstructive pulmonary diseases and nasal dexamethasone, and halon 2402 for fire protection are authorised as specified in annex II to this report, subject to the conditions established by the Seventh Meeting of the Parties in paragraph 2 of its Decision VII/23;

3. To correct the errors introduced by the reports of the Technology and Economic Assessment Panel and its Technical Options Committees in the United States MDI nomination of CFC-12 and CFC-114 for the production year 1997 and its nomination of methyl chloroform for the production years 1996, 1997, 1998, 1999, 2000 and 2001 and to adjust the total amounts exempted to take into account the withdrawal of the New Zealand MDI nomination of CFC-11 and CFC-12 for production years 1996 and 1997, as specified in annex III to the report of the Seventh Meeting of the Parties.

4. That for 1998, for Parties not operating under Article 5 of the Protocol, production and consumption necessary to satisfy essential uses of controlled substances in Annexes a and B of the protocol only for laboratory and analytical uses, as listed in annex IV to the report of the Seventh Meeting of the Parties, are authorised and

subject to the conditions applied to exemption for laboratory and analytical uses as contained in annex II to the report of the Sixth Meeting of the Parties;

5. To permit the transfer of essential use authorisations for MDIs for 1997 between New Zealand and Australia on a one-time basis only;

6. To request the Technology and Economic Assessment Panel and its relevant Technical Options Committee to investigate the implications of allowing greater flexibility in the transfer of essential use authorisations between Parties;

7. To request the Technology and Economic Assessment Panel and its relevant Technical Options Committee to review and report, by 30 April 1997, on the implications of allowing the production of CFCs for medical applications on a periodic "campaign basis" to satisfy estimated future needs, rather than producing small quantities in each year. Consideration should be given in particular to the economic implications of such an allowance;

8. To revise the timetables in Decision IV/25, as modified by Decision V/18, for nominations for production and consumption exemptions for 1998 and subsequent years, as follows: to set 31 January of each year as the last date for nominations for decisions to be taken in that year for production or consumption in any subsequent year; and to request the Technology and Economic Assessment Panel and its relevant Technical Options Committees to develop recommendations on the nominations and submit their report though the Secretariat by 30 April of that year;

9. To approve the format for reporting quantities and uses of ozone depleting substances produced and consumed for essential uses as set out in annex IV to the report of the Eighth Meeting and beginning in 1998 to request each of the Parties that have had essential use exemptions granted for previous years, to submit their report in the approved format by 31 January of each year;

10. To allow the Secretariat, in consultation with the Technology and Economic Assessment Panel, to authorise, in an emergency situation, if possible by transfer of essential use exemptions, consumption of quantities not exceeding 20 tonnes of ODS for essential uses on application by the Party prior to the next scheduled Meeting of the Parties. The Secretariat should present this information to the next Meeting of the Parties for review and appropriate action by the Parties.

## Appendix C – Recommended Procedure for Nomination for Critical Use

**Instructions:**

1. Please submit in English.
2. A separate nomination must be submitted for each proposed critical use.
3. Incorporate by reference, information from the prior nominations, as appropriate.
4. Where possible, electronic submission in addition to the paper copy is encouraged.

**All nominations should be forwarded to:**

The Secretariat for the Vienna Convention and the Montreal Protocol
Ozone Secretariat
United Nations Environment Programme (UNEP)
P.O. Box 30552
Nairobi
Kenya

Telephone +254-2 62-1234 or 62-3850
Fax +254-2 62-3601 / 62-3913 / 62-3532
E-Mail: ozoneinfo@unep.org

**Please provide the following Nominating Party information:***

Party/Country: _____

Contact Person: _____

Title: _____

Address (include city/code numbers): _____

Telephone: _____

Fax: _____

E-Mail: _____

Expert(s)**

Organisation(s): _____

Contact Person(s): _____

Address(es): _____

Telephone(s): _____

Fax(es): _____

E-mail(s): _____

* Article 5(1) Parties need not apply

** Expert(s) in the country who can be contacted for clarification.

Nominations must be received no later than 31 January of the year prior to the first year for which an exemption is requested.

***PLEASE NOTE: The Technology and Economic Assessment Panel and its TOCs may be unable to recommend critical use nominations that fail to comply with instructions from Parties.***

## Appendix D - Acronyms

| | | |
|---|---|---|
| CFC | - | Chlorofluorocarbon |
| MBTOC | - | Methyl Bromide Technical Options Committee |
| ODS | - | Ozone-Depleting Substance |
| OEWG | - | Open-Ended Working Group |
| QPS | - | Quarantine and Pre-shipment |
| TEAP | - | Technology and Economic Assessment Panel |
| TOC | - | Technical Options Committee |
| UNEP | - | United Nations Environment Programme |